

REMARKS

Applicants would like to thank the Examiner for discussing the present case with Applicants' representative. Within the present application claim 1 has been amended to remove the term "about" along with a minor change for consistency. Claim 1 is the only claim currently pending. Entry and consideration of this Amendment are respectfully requested.

REJECTIONS UNDER 35 U.S.C. § 102(e):

Claim 1 is said to be rejected under 35 U.S.C. § 102(e) as being anticipated by *Offord et al.* (U.S. Patent No. 6,617,268). In response, Applicants have enclosed the above-referenced Declaration under 37 CFR 1.131 to remove the cited reference from consideration as prior art.

REJECTIONS UNDER 35 U.S.C. § 103(a):

Claim 1 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Urban* (U.S. Patent No. 5,562,739). *Urban* is said by the PTO to teach the claimed invention except for the temperature range exceeding 220°F.

The PTO states that *Urban* teaches a curing reaction occurring at ambient temperatures or at an elevated temperature by heating the fiber. The elevated temperature range taught in *Urban* is noted as taking place at range of 105-170°C or 221°F - 338°F. The PTO notes that Applicants claim a fabric surface temperature that does not exceed "about 220°F". The PTO acknowledges that *Urban* fails to teach a temperature range not exceeding about 220°F (page 4, lns 15-16).

Applicants have amended claim 1 to remove the term "about" such the claim now reads that the surface temperature cannot exceed 220°F.

Urban teaches curing may occur at ambient temperatures or preferably at elevated temperatures. Col. 3, Lns. 42-44. Applicants contend that *Urban* teaches away from the present invention in that *Urban* teaches that the fabric may be cured at ambient temperatures, which implies the lack of additional heat applied to the fabric. The present application claims that heat is needed for curing. *Urban* further teaches away from the present invention in that *Urban* teaches heating and curing a fabric at a temperature range between 105°C to 170°C or at about 140°C. Col. 3, Lns. 47-51. The present application claims heating and curing a wet substrate to initiate a catalytic reaction for bonding while not exceeding 220°F. *Urban* teaches a range that entirely exceeds the limit claimed in the present application. One of ordinary skill in the art would not combine the teaching of found in *Urban* with that known in the art since *Urban* teaches a temperature that exceeds the limit claimed in the present application.

Additionally, Applicants claim that the surface temperature must not exceed 220°F. *Urban* is silent as to the surface temperature of the fabric. The surface temperature of the fabric may be different than an overall oven temperature.

The PTO further asserts that it would have been obvious to one of ordinary skill in the art to have created a PEG resin fabric wherein the heating and curing step does not exceed 220°F since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The PTO notes that one of ordinary skill would have been motivated to optimize the temperature range by the desire for reduced energy consumption in the production of a cured PEG resin treated substrate. The PTO asserts that the heating and curing temperature is the effective variable resulting from the desire to determine a curing temperature optimized for energy savings and the desire to quickly cure the product.

Applicants respectfully note that a particular parameter must first be recognized as a result-effective variable which achieves a recognized result before the determination of the optimum or workable ranges of the variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); MPEP 2144.05). Applicants respectfully assert that the recognized result is not optimized energy consumption and speed of processing but the initiation of a catalytic reaction and the prevention of scorching the fabric. One of ordinary skill in the art must recognize the results of reduced scorching and the initiation of a catalytic reaction before the optimization of the temperature range can be recognized as routine experimentation.

The prior art does not teach or suggest the result of preventing scorching and initiating crosslinking. The temperature parameter is not recognized in the art as a variable that prevents scorching and initiating crosslinking through a catalytic reaction. Applicants have submitted *Exhibits 1 and 2* in support of the present Declaration under 37 C.F.R. 1.131. The same such exhibits are also now used in support of demonstrating that the result of the claimed temperature range is the prevention of scorching and the initiation of crosslinking. Within the exhibits it is shown that the surface temperature of the fabric should not exceed a certain surface temperature of the fabric or scorching may occur and that the surface must reach a certain temperature to initiate crosslinking. *Exhibit 1*, pg. 1, paragraphs 1 and 2. The prior art fails to teach or suggest optimizing the surface temperature range of a fabric to prevent scorching and the initiation of the crosslinking of the PEG formulation.

Additionally, the PEG formulation of the present application is intended to remain on the fabric after curing to impart certain desired characteristics and is added in a sufficient quantity to ensure such characteristics. Such desired characteristics include thermal relevancy and

improved moisture absorption. In one example, the PEG formula comprises approximately 30% by weight of the finished fabric. Polyethylene glycol in the present application may comprise about 50% of the PEG formulation. Exposing the PEG formulation to temperatures exceeding 220°F results in both scorching and degradation to the PEG formulation and in turn results in damage to the cured fabric.

The polyethylene glycol added in *Urban* is disclosed as an optional flexible linear polymer included in an amount up to 5%, and preferably in an amount up to 2%, by weight. Col. 3, Lns. 40-41; Col. 2, Lns 64-67. The relatively small amount of polyethylene glycol taught in *Urban* would not impart the desired characteristics to the treated fabric as is taught in the present application. Additionally, given the small quantity of polyethylene glycol added in *Urban*, scorching and degradation would not be a concern. Thus, one of ordinary skill in the art would not have been motivated to limit the temperature range to not exceed 220°F as is claimed in the present application.

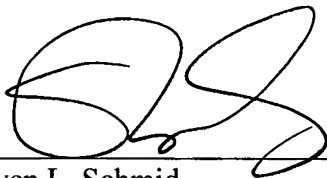
Applicants respectfully assert the prior art either alone or in combined does not teach or suggest that which is claimed in the present application.

CONCLUSION

Applicants respectfully contend that claim 1 is allowable and an early notice of such effect is earnestly solicited. Should the Examiner have any questions or comments regarding the foregoing Response, she is invited and urged to telephone the undersigned attorney.

Respectfully Submitted,

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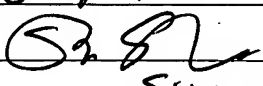


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